

**Commonwealth of Kentucky**  
**Division for Air Quality**  
***PERMIT STATEMENT OF BASIS***

DRAFT

Conditional Major, Construction / Operating

Permit: F-07-038

Gotec Plus Sun LLC

Williamstown, Kentucky 41097

Date: July 20, 2007

Sajjad Quabili, Reviewer

SOURCE ID:	21-081-00014
AGENCY INTEREST:	1500
ACTIVITY:	APE20070002

**SOURCE DESCRIPTION:**

Gotec Plus Sun is located at 107 Industrial Road, Williamstown, Kentucky. The facility manufactures miscellaneous metal parts in the plant. The surface coating operation of this source consists of hand painting lines, dip tank coating machines, rotary spray, tumble spray booths, roller coating machines, and chain-on-edge spray machines.

The emissions from this source are volatile organic compounds (VOCs), particulate matter (PM/PM-10), and hazardous air pollutants (HAPs) from the surface coating operations. Currently, two regenerative thermal oxidizers (RTO) are utilized to control the plant's VOC and HAP emissions. The particulate matter emissions from surface coating operations are subject to 401 KAR 59:010, New process operations. The particulate emissions from surface coating operations are controlled by disposable mesh filters and by the filter bank of the RTOs.

**COMMENTS:**

Gotec Plus Sun has applied to the Division to add sixteen paint spray booths and a new RTO to the plant. Currently, the source is holding a Title V permit (V-03-048) for HAP emissions. Gotec Plus Sun has a limit on their VOC emissions (less than 90 tons per year).

On March 9, 2007, the source requested to take limits on the source-wide emissions of VOC and HAP to less than Title V major source thresholds. Therefore, the source will be issued a Conditional Major operating permit under 401 KAR 52:030, Federally enforceable permits for non-major sources. This is the initial Conditional Major permit for this source.

**Construction permit:**

Gotec Plus Sun has applied to the Division to construct and operate the following coating spraying machines and a regenerative thermal oxidizer at their Williamstown plant:

- Four chain-on-edge coating spray machines
- Seven rotary coating spray booths
- Three tumble coating spray booths
- One dip coating machine
- One dip & spin coating machine
- One regenerative thermal oxidizer

**Existing permit:**

401 KAR 59:225, New miscellaneous metal parts and products surface coating operations is applicable to existing facilities (EP 01, EP 02, EP 03, EP 04, EP 05 and EP 06). Pursuant to Section 3 of this Standard for VOCs, the affected facility will be allowed to discharge into the atmosphere not more than fifteen (15) percent by weight of the VOCs net input into the affected facility.

EP 07, EP 08 and EP 09 were constructed in the years 2003 and 2004. All of these emission points are connected to the existing RTOs to control VOC emissions.

**Combined permit (F-07-038):**

Based on 15% VOC emissions from both existing and new facilities to the atmosphere, the source wide potential to emit VOCs is 242.15 tons per year. The source wide allowable VOC emission limit is 90 tons per rolling 12-month period.

The source wide potential to emit HAP emissions is as follows:

- Ethylbenzene: 15.76 tons per year
- Methyl isobutyl ketone: 80.56 tons per year
- Formaldehyde: 1.08 tons per year
- Xylene: 63.43 tons per year

Source wide allowable HAP emission limit for any single HAP is 9 tons per rolling 12-month period and for combined HAPs is 22.5 tons per rolling 12-month period.

**PM emissions:**

The coating spray booths are equipped with exhaust filters to control particulate emissions. In addition to those filters, the regenerative thermal oxidizer intake is equipped with three layers of filter banks to control particulates. The claimed efficiency of spray booth filters is 90%. The particulate removal efficiency for filter banks is assumed 90%. The overall control efficiency for particulates is 99%. The controlled PM emissions will remain below 401 KAR 59:010 allowable.

**Emission caps:**

Potentially, Gotec Plus Sun is a major source under 401 KAR 52:020, Title V permits, for VOC and HAP emissions. The source has voluntarily accepted emission caps for both VOC and HAP to become a conditional major source under 401 KAR 52:030, Federally enforceable permits for non-major sources. The emission caps are as follow:

- Source wide VOC emissions shall be less than or equal to 90 tons per rolling 12-month period.
- Individual HAP emissions shall be less than or equal to 9 tons per rolling 12-month period.
- The permittee shall keep source wide emissions of combined HAPs no greater than 22.5 tons per rolling 12-month period.

**Testing Requirements:**

A performance test was performed for both regenerative thermal oxidizers in December 10, 2005. The stack test concluded that the destruction efficiency for RTO-A and RTO-B was 97% and 98% respectively. The next performance test shall be performed before December 10, 2010.

On December 12, 2005, a capture efficiency test was performed for the chain-on-edge spray machine (EP 08) and it was determined to be 100%. Also, a capture efficiency test was performed for the hand paint line (EP 01) and it was determined to be 92%.

Gotec Plus Sun will be required to perform additional representative capture efficiency tests for rotary spray booths, tumble spray booths, and dip and spin coating machines.

**Applicable Regulations:**

401 KAR 59:225, New Miscellaneous metal parts and products surface coating operations commenced after February 4, 1981 is applicable to the each facility (EP 01, EP 02, EP 03, EP 04, EP05 and EP 06) for VOC emissions.

401 KAR 59:010, New process operations is applicable to the each facility (EP03, EP04, EP 05, EP 08, EP 09, EP 12, EP 13 and EP 14) for particulate emissions.

**Non-applicable Regulations:**

To preclude applicability of 40 CFR 63 Subpart MMMM, Gotec Plus Sun has taken limits on HAP emissions to become a non major source for HAP emissions.

**CONTINUOUS MONITORING:**

Compliance with combustion chamber temperature of the control equipment shall be monitored continuously; that is the recording devices associated with the RTO shall monitor and update the combustion chamber screen.

**PERIODIC MONITORING:**

Compliance with annual emissions caps will be ensured by monitoring, record keeping and reporting specified in the permit. The VOC emissions will be limited to 90 tons per year. The single HAP emission will be limited to 9 tons per year and the combined HAP emissions will be limited to 22.5 tons per year.

The Division is requiring the source to keep daily records of usage of paintings, coatings, and solvents at each of the assembly lines and also to summarize those records at the end of each month. The source shall also keep records of the monthly and twelve months rolling total for VOC and HAP emissions each month. The keeping of daily records for particulate matter is not required as PM emissions are far less than the allowable limit of 2.34 pounds per hour for each affected facility.

**CREDIBLE EVIDENCE:**

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.